



Publication office at Bartow, Florida. Entered as second class matter February 16th, 1920, at the post office at Tampa, Florida, under the act of March 3, 1879. Entered as second class matter June 19, 1933, at the post office at Bartow, Florida, under act of March 3, 1879.

Turning Citrus Culls . . . Into Money

Citrus Fruits, By Products

That Florida holds no monopoly on the manufacture of live stock feeds from citrus culls is shown by an article in the January issue of Texas Farming and Citriculture, a magazine published in the very heart of the Texas citrus belt. However, as the demand for feeds made from citrus culls appears to be greater than the supply, both in Florida and Texas, there appears to be no immediate cause for concern over the expansion of this industry.

Discussing the new industry as it is being carried on in Texas, the magazine says:

"This certainly is not an age of waste as far as manufacturing is concerned. In former times a great deal of raw material was left over after an article had been made, but that sort of thing would never do nowadays, when price competition requires that manufacturing costs be kept down. So some of the most notable advances in factory practises in recent years have been along the line of eliminating waste, of extracting a profit from material that used to be cast aside.

"In this important matter the Texas citrus industry's leading co-operative organization is in the vanguard of progress. We all remember too well the citrus refuse from the canning plants that even as recently as last season lay in resking

piles quite close to some of the roads and provided paradises for great hosts of gnats swarming forth to harrass humanity. These empty and decaying grapefruit and orange hulls were supposed to be buried, but there was a wide gap between the supposition and the fact.

"The nuisance created by the piles was not nearly as regrettable, however, as the circumstance that they and the properly-interred hulls meant a tossing away of money—many thousands of dollars in the course of a season's processing of Texas citrus by some thirty-five active canning plants. This yellow stuff, despised by plant operatives because it was untidly in the way and could not be utilized in their equipment, was ready to deliver the equivalent of real gold—if treated right. As is well known, citrus hulls processed into meal make one of the most nutritious of livestock and poultry feeds.

"But in their raw state they came to constitute, with the rapid influx of new citrus canning plants into this area, not merely a matter of concern from the viewpoint of comfortable living here in the summer, but a challenging problem for the citrus industry, intent, of course, upon obtaining all that our grapefruit and oranges have to offer.

"In this situation, as in numerous

others calling for progressive action, the Rio Grande Valley Citrus Exchange has stepped out to the front. Its strong cooperative position and its credit with the Bank of Cooperatives at Houston enabled it early last fall to arrange for an investment of approximately one hundred thousand dollars in a drying or dehydrating plant for transformation of citrus waste into valuable feed for cows and chickens. It may be stated in passing that the demand for such feed considerably exceeds the present supply.

"The building which houses the dehydrating equipment looms beside the Exchange's big canning plant on the outskirts of Weslaco. It looks from the outside like any other large structure, but when an uninitiated visitor enters, thinking that, after all, the drying of citrus peel must be a simple process, requiring little machinery, he is apt to find himself astonished. This is giant equipment.

"Here is a battery of four ovens, each of which, built of brick and tile, suggests a dwelling house room in size. From one end of each projects a long, massive pipe through which a man might walk. In the pipes, revolving slowly, the drying is done. But before this the hulls must be preased, and earlier in the process

(Continued on page 9)

Control Measures . . . For Citrus Aphids

BY J. R. WATSON
ENTOMOLOGIST, FLORIDA
EXPERIMENT STATION

In most groves the citrus aphids have not done any appreciable amount of damage so far this winter. The amount of harm that they are liable to do from now on will depend much upon how the growth develops. Aphids are generally spread over the entire citrus belt and though not numerous in most groves there are enough there for seed. It is entirely possible that they will do considerable damage before the end of the spring growing season. We must remember the great rapidity with which the citrus aphids can breed.

They begin to have young when only six days old, and their average reproduction when conditions are favorable is six young per day. Have you ever stopped to figure out what this means? It means that a female, and they are all females in the citrus belt, at the end of a week could have 42 daughters and 36 grand-daughters. At the end of two weeks, her middle age, she could have 84 daughters and 1,396 granddaughters and 648 great granddaughters. In her ripe old age, at the age of three weeks she could have 2,000 granddaughters and 7,776 great granddaughters, a total of nearly 10,000 descendants; at the end of ten weeks there would be living to revere her memory 160,000 descendants. This is supposing, of course, that none die except from old age and there was plenty of food.

As a matter of fact no such rapid reproduction takes place in nature but these figures do emphasize the immense possibilities for reproduction if conditions are favorable. Like other insects, aphids have their enemies, predators and parasites from which they cannot run away and from which they make no attempt to run away. They show no fear whatever of their most deadly enemies. Their method of getting along in the world is to breed so fast that after their enemies have had their fill, there will be a few left to carry on the species. Among these enemies are ladybeetles, aphid lions and especially certain fungus and bacterial diseases which often sweep them off in great numbers, but this does not usually happen until late in the spring.

Citrus growers all know, of course, what damage aphids can produce. If abundant enough they may absolutely stop all development in the spring flush of growth, including blossoms and fruit. The curled leaves are but one phase of the destruction they produce.

It is only on the spring flush of growth that aphids are usually a serious menace. If we can protect this flush of growth from the aphids we can afford to ignore them the rest of the year. Therefore it is good insurance to take measures at the present time to delay the infestation. What few colonies there are in the groves at this time should be destroyed. They are mostly out on the ends of slender branches which may be bent over into a bucket containing some good insecticide, like nicotine with soap or other spreader. Twigs which cannot readily be bent into a bucket can be spot dusted. For this purpose choose a time when there is absolutely no wind and the temperature is above 60 degrees F., and dust all colonies with a 3 per cent nicotine sulphate lime dust. This will be very effective if weather conditions are suitable. There is no use dusting in the wind. Even enough wind to sway the Spanish moss in the trees is too much to get a good kill of the aphids by spot dusting.

If one is to control aphids he must do a thorough job, more thorough than is ordinarily done for other citrus pests. For instance, in checking up behind a spray crew in citrus groves you will usually find about 85 per cent of the foliage and fruit has been covered. This is an average commercial job. If we do no better than this in the control of citrus aphids let us stop and consider what happens. Fifteen per cent of them are left alive, 15 out of every 100. Let us say that half of these are mature females bringing forth young at the average rate of six per day. It will readily be seen that in 48 hours the 15 aphids which escaped will have reproduced the original 100, provided they are not hindered by predators and parasites. In other words, the average commercial spraying, such as is usually

done for scale insects or rust mites, will check the development of the aphids only about two days.

A most excellent way to deal with aphids on young trees, and it is on young trees that aphids always get their first start, is to construct some tents of unbleached muslin stretched over a framework of telephone wire. A battery of a dozen of these tents will be sufficient. By placing these over the trees and dusting our average kill has been 99.4 per cent. Only four out of a thousand escaped instead of 150 as in average spraying. In other words for purity we have beaten Ivory soap by two points. With this percentage of kill the spring flush of growth will be over before the four aphids which are left will be able to reproduce the original 1000.

One other important thing a grower can do to protect his spring flush of growth from aphids is to push the growth as rapidly as is practicable by fertilizing and cultivating his grove. We have never had a severe freeze after the middle of February in the main citrus section of Florida, so apply the spring fertilizer and start cultivating the grove by that time. Push out the spring growth on the trees and get it full-grown and hardened up before the aphids begin to fly generally. As has been pointed out before, from the standpoint of their ability to migrate there are two forms of aphids, the winged and the wingless. When the flush of growth has just started in the spring and there is an abundance of food, only about one aphid in ten ever develops wings. The result is that the majority of them cannot move except by crawling from one branch to another so that their ability to migrate is practically limited to the tree on which they were born. But when the growth begins to harden up on the trees 90 per cent of the aphids may develop wings and if the growth on that particular tree is no longer suitable they will fly away in all directions looking for suitable pastures, so it usually happens that when the spring growth hardens up

(Continued on page 7)

Florida Stations Added
To Post Air Show



Emily Post

Starting on Thursday, January 20, at 10:30 a. m., the Emily Post radio program, "How To Get The Most Out Of Life," sponsored by the Florida Citrus Commission as a part of the state's citrus advertising campaign, went on the air in Florida. The following stations, which have been added to the basic Columbia Broadcasting Network of thirty-two northern stations, will broadcast this program on Tuesdays and Thursdays at 10 a. m., for the next thirteen weeks:

Jacksonville, WMBR; Orlando, WDBO; Miami, WQAM; Tampa, WDAE.

Mrs. Post has been heard regularly over the Columbia Network since October 21, 1937 and in this relatively short time has become the leading twice weekly daytime attraction on the air.

This is not a transcribed program. It is a "live" network program featuring Emily Post in person. Utilizing Mrs. Post's vast audience and wealth of knowledge and authoritativeness in all matters of etiquette, this program has proved to be ideal in carrying the message of Florida.

The program to be heard over Florida stations is exactly the same as heard over northern stations as all thirty six stations constitute a chain connected with the originating point, station WABC New York.

FSCC To Make Purchases
Of Surplus Florida Oranges

Orlando Citrus Production Credit Assn.
To Hold Meeting

Stockholders of the Orlando Citrus Production Credit Association will hold their annual stockholders meeting in Orlando, Florida, at the San Juan Hotel, on Thursday morning, February 17, 1938, at 10 o'clock according to an announcement by Mr. A. E. Pickard, president of the Association, who says that it is desired that every member of the Association shall be present.

At this meeting, complete and detailed reports will be made by the officers of the Association on its operations for the past year, three directors will be elected and other highly important business transacted. Mr. Pickard in announcing the date of the annual meeting said that it was hoped to make the attendance this year the largest of any of the meetings yet held. Citrus growers and others interested in the citrus industry are cordially invited to attend the meeting. A very interesting program has been arranged for the annual meeting. Mr. Pickard said much interest is being manifested by the members. Attendance prizes will be awarded.

The Orlando Citrus Production Credit Association serves the citrus growers exclusively and makes production loans in every citrus producing county of the state.

The officers and directors of the Association are, A. E. Pickard, president; C. H. Walker, vice president; F. G. Morehead; J. J. Parrish; John D. Clark; Leo H. Wilson; and V. L. Bullis, directors, and Phillip Mazz, secretary-treasurer.

TOUGH SPOT

First Devil: "Ha! ha! Ho! ho!"

Saten: "Why the laugh?"

First Devil: "I just put a woman into a room with a thousand hats and no mirror."

The Agricultural Adjustment Administration has announced that the Federal Surplus Commodities Corporation will purchase oranges in Florida immediately for relief distribution and to provide assistance to growers in marketing this year's large crop. Purchases will be made direct from handlers and growers in car lot units only. Offers to sell oranges to the Corporation must be submitted to the Corporation's local office, Room 203, Drane building, Lakeland, Florida. Acceptances will be issued by the Corporation twice a week.

Prices f. o. b. cars or trucks, on the basis of standard Florida field boxes, must be indicated in the offers to the Corporation. The Corporation will purchase oranges grading U. S. No. 3 and oranges grading a combination of at least 50 percent U. S. No. 2, balance U. S. No. 3. Sizes may range from 126's to 324's, and not in excess of 10 percent of either 126's or 324's. The oranges must be loaded bulk in cars or trucks on sufficient excelsior or similar padding to insure proper transportation. Federal - State inspection will be required as to grade, condition and count. Further details of the program can be secured at the Corporation's office at Lakeland.

Oranges bought under the purchase program will be distributed by State relief agencies to the needy and unemployed. The method of relief distribution, designed to increase consumption and prevent waste, will not interfere with regular commercial sales.

CONTROL MEASURES
FOR CITRUS APHIDS

(Continued from Page Six)

the aphids migrate in large numbers. This usually happens about the middle of March. Until that time practically all the aphids which infest your trees will have been born in your own grove. Therefore keep the infestation down for the next seven weeks and you will reduce the probability of having severe trouble during the blooming period.

TERMITE CONTROL

... In Buildings

BY J. R. WATSON
ENTOMOLOGIST FLORIDA
EXPERIMENT STATION

In a recent radio broadcast we discussed the subject of termites in citrus trees and methods of minimizing their damage. Here we wish to take up the subject of termites in buildings. Their control in buildings is very different from that in citrus trees. The termites commonly found in buildings in Florida we divide into two classes, the subterranean termites and the dry wood termites. The subterranean termites must have contact with the earth for moisture, hence the name subterranean, although they are not by any means confined to subterranean situations but can work well up into the third story of a house. The dry wood termites need no such connection with the ground. Of the two, the subterranean termites are much more common in Florida, ninety-five percent of the termites in buildings in the interior portions being of this species. But in some of the coastal sections, particularly in the southern part of the state, from Tampa to Key West and up the east coast, the dry wood termite is much more common than it is in the interior of the state.

We will take up first the subterranean termites, those that must have contact with the earth for moisture. When a piece of timber rests directly on the ground this is of course easy, but even when buildings are placed on masonry foundations they are by no means safe from these insects. Under these circumstances the termites may build out of sand, cemented together with a secretion from their salivary glands, covered passageways connecting the building with the earth. These are usually plastered on the inside of the foundations and are very crooked and small in size, much smaller than the diameter of a lead pencil. Sometimes instead of being fastened to the masonry of the building they extend directly through the air from the floors to the ground below, but this type of connection is more rare.

Efficient methods of control of this termite in buildings are based on

breaking this contact with the ground. If this is destroyed in such a manner that it cannot be re-established promptly the termites in the building will perish. Their bodies are very soft and lose water very readily. This is probably the chief reason they travel in tunnels through the wood or in these covered passageways. They will never voluntarily expose themselves to the air and light, except at swarming time.

In building a new house or other building, it is entirely possible to make it practically proof against subterranean termites. These measures will be a comparatively small part of the original cost of the building and should by all means be incorporated in every new wooden building in Florida. Even buildings of brick or stone have enough wood in them which may be attacked by termites to make such measures advisable. All that is necessary is to build the house well above the ground, on pillars, and cap these pillars with a piece of non-corrosive metal, such as galvanized iron, tin or copper. The sheet metal should be considerably wider than the pillar, so it will project out a couple of inches on both sides. This projection should be bent down at an angle of 45 degrees, or it may be made somewhat wider and bent up in the form of a trough which may be filled with oil. This has the added advantage that it will keep ants from entering the house, unless there are foundation plantings or other things touching the house. Termites would not use foundation plantings for entering the house as the contact would be too uncertain for them, but ants would use such a connection.

These termite guards must be placed around the chimney as well, and around the door steps. The chimney, perhaps because of the warmth is one of the favorite points of entry of the termites into the house. A cheap way of preventing entrance through the door steps is to separate them from the rest of the house by an inch or two of space. There is no necessity for the door steps touching the sills of the house. Should they occasionally bridge over this

space their tunnels could be easily destroyed.

Houses built on a solid foundation instead of pillars would be somewhat more expensive to make termite proof, but even in this case it would not add more than 10 per cent to the cost of the house.

If one desires to keep animals out from under the house a masonry wall could be built and used, providing it is separated from the sills of the house by an inch or so of space.

There are other precautions not at all expensive which should be taken in the building of a house. It is a common practice of carpenters to leave waste lumber and other trash under the house. This is almost sure to be infested with termites sooner or later and may result in their entering the house when this wood is consumed. All such trash should be removed, and, of course, any stumps or other woody material under the house should be removed. An even more serious habit of builders is to leave the forms which were used in pouring the foundations. These make a direct and very convenient avenue of entry into the house.

The early settlers in Florida had the right idea — to build the house high on pillars with plenty of light and air underneath. Perhaps they had in mind rather a shelter for pigs and farm machinery than termite protection, but at least they did hinder the entrance of termites.

If the house is provided with double floors it is an excellent idea to sprinkle a liberal amount of paris green between the floors. Timbers resting on or near the ground should be impregnated with creosote, zinc chloride, or other material under pressure. In several towns in Florida there are firms which will do this work. Merely spraying or painting the outside of the timber with these materials will not be effective. Good cement should be used in making the foundations. Termites will not eat cement but they can bore their way through a poor grade of mortar.

But what about a house already built? The only permanent way, and

(Continued on page 9)

TURNING CITRUS CULLS INTO MONEY

(Continued from page 5)

they must be ground. A start with the hulls at the beginning shows them being pushed into the plant by a screw propellor and dropped at intervals through shutes into grinding machines beneath. These are set for varying degrees of fineness, depending on whether the hulls being processed are for cattle or chickens.

"The machines reduce the hulls to small particles, a wet and sticky mass which is taken over by another screw propellor and shoved along to the pressers, where thousands of pounds of pressure squeeze out a great deal of moisture but still leave the mass somewhat wet as it is carried upward on moving belts equipped with shelves to positions high enough for passing it downward again into the immense revolving pipes in which the dehydrating process is completed by high degrees of heat drawn into the pipes from the ovens. The heat is generated by natural gas, and power is provided by electricity. Intricate instruments regulating the heat and power make the operation of the plant largely automatic.

"This is, of course, a very incomplete outline of the process, but it may convey something of the general idea. The hulls have had all but about ten percent of their moisture taken from them and have been reduced to about one-sixth of their original bulk.

"The dehydrated product is sacked for the market, which is widespread, extending as far as the Atlantic seaboard through the ports at Port Isabel and Brownsville. The transportation rate by vessel to Atlantic coast cities is 17 cents a hundredweight, whereas the rail rate to Houston for the same weight is 30 cents.

"The plant has a daily capacity of 150 tons of finished product and is said to be the largest of its kind in the world. It has been built by J. M. and W. A. Kudor and the machinery is largely of their own design. Only a few years ago they were operating a feed store in Los Angeles and happened to hear of a comparatively small citrus dehydrating plant which was causing its owners a great deal of grief. The Kudor brothers, well aware of the growing demand for orange meal, thought they might be able to do something with the plant. They

tried, and the result has been that they have since made some of the largest installations in California and Florida and have topped these achievements off with the most commanding and complete plant of all for the Rio Grande Valley Citrus Exchange, which leaves the selling of the products to the Kudors, taking a percentage of the returns.

"So no more in the Texas citrus area will grapefruit and orange hulls be buried treasure or pest-creating defacers of the landscape. They have given rise to a new industry here and one which is an impressive illustration of what can be accomplished through cooperative endeavor."

TERMITE CONTROL IN BUILDINGS

(Continued from page 8)

in the end usually the most economical way, is to install the guards recommended for a new house. This is not impossible nor necessarily a very expensive procedure. Usually if the foundation is of brick, a few at a time can be removed without the necessity of jacking up the house.

A more serious problem in the control of termites are houses built low on the ground, with little or no space underneath. The so-called Spanish types of houses are an invitation to termites. In such houses the best thing that can be done is probably the following measures, which are also the only ones that can be used against the dry wood termites, with the exception that tightly screening the house will keep out the dry wood termites and keep them from establishing a colony in the house. However, dry wood termites can and do sometimes enter the house from the outside.

An important measure in fighting termites is to be able to recognize them when you see them. As their other name, "white ants", implies,

the workers are a dirty white color, easily distinguished from ants, but the winged sexual forms are usually brown or black. At certain seasons of the year these issue in im-

mense numbers from their nests, usually on a quiet sunny day in the spring or fall. These sexual forms look very much like ants, particularly the swarms of carpenter ants which often infest rotten wood, but there is one sure way of telling ants from termites. In the case of ants the connection between the hind end of the body, the abdomen, and the middle portion, the thorax, is extremely narrow. Ants may be said to have a slender waist. In the case of termites, this connection is broad, as it is in their relatives, the cock-roaches. If the house is found to be swarming with winged insects find out at once if they are termites or ants. If they are termites find the opening from which they are issuing and pour into it a little carbon bisulphide, remembering that carbon bisulphide when mixed with air is inflammable and all fire, including pipes, cigars and cigarettes, must be kept away as long as there is any odor there. If you wish to avoid this fire risk you can use carbon tetrachloride. This is somewhat more expensive and you will have to use somewhat more of it, but it is not inflammable. As soon as the carbon bisulphide or carbon tetrachloride has evaporated, dust into the opening some paris green. Termites in walking through this material will get it on their feet which are irritated by the material. In cleaning their feet with their mouth parts will swallow enough of the paris green to poison them.

Examine the space under the house every few months and destroy all tunnels found. Daubing gas tar over the foundations will discourage the termites from re-building their tunnels.

H-B Minimum Self Registering Thermometers

Irrigation and Spray Equipment

**CITRUS PACKING AND
CANNING SUPPLIES**

The Cameron and Barkley Company

Tampa, Florida

The Oldest Industrial Supply Business in the South

The Citrus Industry

with which is merged The Citrus Leaf

Exclusive publication of the Citrus Growers and Shippers

Publication office 550 North Broadway, Bartow, Florida

Telephone 380

Published Monthly by
ASSOCIATED PUBLICATIONS CORPORATION

S. L. FRISBIE	-	-	-	-	-	President
S. LLOYD FRISBIE	-	-	-	-	-	Secretary-Treasurer
A. G. MANN	-	-	-	-	-	Production Manager

Subscription, \$1.00 per year in advance

NEW YORK OFFICE

118 East 28th Street — Telephone Lexington 2-4637
Edwin F. Ripley, Manager

CHICAGO REPRESENTATIVE

Joe Esler, 6241 North Oakley Avenue
Telephone—Briaridge 7441

TOO MUCH POLITICS

Much to be regretted is the announcement of the resignation of E. C. Welles of Arcadia as a member of the Florida Citrus Commission. Even more to be regretted is the reason given by Mr. Welles for his action. "Too much politics," he says, prevented effective service on the commission.

In a brief but pointed telegram, Mr. Welles severed his connection with the commission on January 26. The telegram follows:

"Have endeavored to serve the citrus industry to the best of my ability, but due to political interference I cannot do so. Please accept my resignation, effective at once."

Mr. Welles, an outstanding citrus grower of DeSoto county, was appointed to the commission by Governor Cone last September as one of six new members named to succeed members of the old commission whose terms expired at that time.

Long prominent in South Florida and a leader in many activities of DeSoto county, Mr. Welles was looked upon as one of the strong men of the commission. It is to be regretted that he found himself handicapped by political interference to the extent that he felt compelled to withdraw from the commission.

It is to be hoped that the political interference referred to by Mr. Welles may not rob the commission of other members at a time when strong, able and honest leadership is so badly needed. If such political interference is as serious as Mr. Welles implies, it should be speedily and permanently withdrawn, to the end that the commission may effectively function in the interest of the state's leading industry.

The Florida Citrus Commission is one body in which politics has no place and should be permitted to play no part. Unfortunately, politics of one sort or another appears to be one of the major handicaps of things citrus in Florida.

FERTILIZERS AND CITRUS

The important part which fertilizers play in

the production of Florida crops is shown by recent state reports that approximately 443,383 tons of fertilizer were used by the growers of the state from July, 1936 to June, 1937.

Of this great total, by far the greater part was used by growers of citrus fruits. Seven citrus producing counties, including Polk, Orange, Dade, Lake, Seminole, Broward and Palm Beach, consumed more than one-half of the entire total. Polk county headed the list with a consumption of more than 69,000 tons, and each of the other six are credited with more than 20,000 tons each.

A survey conducted by the Agricultural Economics Department of the University of Florida shows that the average cost of fertilizers for citrus trees represented approximately 40 per cent of all cash costs, and that the expenses incurred for the fertilizers and their application amounted to more than 60 per cent in some groves.

An important result of this survey shows that a study of the relationship of total pounds of available plant food applied to yield and returns per hundred trees revealed that the greater amount applied, the greater the yield and returns. On citrus in Florida, adequate amounts of fertilizer are profitable, especially as the survey shows that the yield of the crop is the most important factor affecting the profits from an individual grove.

The survey shows that of all the items of cost involved in the production of fruit in these groves, the money spent for fertilizers paid greater dividends than money spent for any other item. Which in some measure at least explains the close relationship existing between the fertilizer manufacturers and the citrus growers of the state.

TEXAS CITRUS FIESTA

Texas has just held its annual citrus fiesta, at Mission, an important center of the citrus belt of the Lower Rio Grande Valley. Judged at long range, this citrus fiesta, partakes somewhat of the nature of our own Orange Festival at Winter Haven.

A recent issue of the Mission Times, devoted largely to the fiesta and to the citrus industry in Texas, is a noteworthy testimonial to the important place which citrus has assumed in the southern tip of Texas.

An issue of sixty-eight pages, depicting the progress and development of the Lower Valley, with particular emphasis on citrus, this issue of the Times is an outstanding evidence of the place which citrus has made for itself in the minds of Texans.

In general it may be said that a citrus grove is worth just what its owner makes it. A well-kept, carefully cared for citrus grove is a thing of beauty, and is worth almost any price its owner may ask for it. A neglected, run-down grove is an eye-sore and practically worthless. In which classification is your grove?

What Is . . . *Soil Conservation*

Soil Conservation?

R. V. ALLISON, CHEMIST

FLORIDA EXPERIMENT STATION

Defined in its simplest terms soil conservation is the maintenance in the land of a fully normal condition of fertility or productivity from year to year, from decade to decade and from century to century. Such a condition is the logical and natural result of proper land management under any and all conditions of use.

In the broader interpretation of the term it is readily understood that soil conservation must mean more than the mere protection of the precious topsoil against erosion by wind or by water, at least under certain conditions. In other words, the happy-go-lucky development of American agriculture ever since its first inception in Colonial times has found a number of ways to destroy the producing power of the land besides allowing it to blow or wash away.

Developing the subject briefly in terms of the problems as we see it here in Florida, I shall first break the entire state down into four major problem areas according to type and topography of soil, prevailing land use and other environmental characteristics which will assist in setting them apart. These are listed and described briefly as follows:

1. THE MIDDLE COASTAL PLAINS — This is an extensive area in Northwest Florida having much in common with lower Georgia and Alabama both as to type and cultivation of soil. It is characterized by general farming with cotton, peanuts, corn and tobacco as the principal cultivated or row crops. Increasing attention is being paid to livestock and, consequently, to pasture and forage crops. Cultivation of row crops has caused appreciable sheet and gully erosion on practically all slopes and especially on those above 4-6 per cent. The predominant soils are fine sandy loams.

2. FLORIDA ROLLING SANDY LANDS — The main body of this area is irregularly distributed through the upper central part of the peninsula and is well represented by what is commonly known as the "Ridge Country." An extensive unit is to be found in the Western part of the state though geographically it

is entirely separated from the main body. Insofar as soil types are concerned, sands and fine sands predominate with scattered areas of sandy loams. Consequently these soils are highly pervious and droughty especially where there is considerable depth to clay. However, the lower parts of the central area represent one of the most important citrus producing sections of the state. While there is no surface erosion of moment, the open character of the soils which makes them so susceptible by leaching creates an even more difficult problem to handle, especially under the rainfall and temperature conditions that prevail throughout the year.

3. LOWER COASTAL PLAINS — This area is usually called "Flatwoods." Its topography is characteristically very flat, consequently it is commonly very wet during the rainy season in undrained areas. The soils are predominately fine sands, usually with hardpan. There is considerable truck growing together with some citrus and other tree crops. The most extensive agricultural operations are livestock and forestry of one type or another. The most serious source of soil deterioration is by leaching, natural oxidation of humus under cultivation and by uncontrolled burning under forest and range conditions.

4. ORGANIC SOILS — In Florida or elsewhere, organic soils set themselves apart from all others from the soil conservation standpoint. In them we find one of our most serious conservation problems. At the same time it is one upon which very little, as yet, has been done from this standpoint. Overdrainage is, of course, the greatest source of damage on account of the burning that commonly follows and the shrinkage that naturally ensues, independently of burning and the natural oxidation of this highly combustible material.

The greatest example of the conservation problem involved in organic soils to be found in Florida or in any other state is, of course, in the Everglades. The damage that already has been done to this immense area is incalculable and it is steadily

going forward from season to season. Although it has been my privilege to examine the progressive destruction of mineral soils by the erosive action of wind and water in practically every part of the country, I have seen nothing which exceeds the essential destruction that is in progress in this great area of organic soil.

There is only one answer to the problem here or elsewhere insofar as the development of organic soils is concerned. That is the closest possible water control at all times. At best we are far from knowing how to cultivate soils of this type without a steady annual subsidence even in the absence of open burning. In addition to the Everglades, important areas of organic soils in Florida are to be found south of Lake Istokpoga, at Fellsmere, North of Lake Apopka and at many other points.

From what has been said regarding the relationship between proper land management and effective soil conservation it is obvious there will be about as many different types of management programs as there are types of land use. For the most part, however, they must all, of necessity, center around water conservation. For where erosion produced by the overland flow of water is involved the greater the percentage of the total rainfall that enters the soil the less there will be to run off over the surface and so create soil losses by surface washing. Likewise, the greater the amount of water we can encourage to enter the soil the greater will be the reserve built up which will be available for plant growth which in itself, is the greatest known factor in the control of soil and water losses whether by the action of water over the surface or within the soil body itself. Thus it is largely by means of improved plant growth, cover crops, etc., that we can hope to stabilize the productive capacity of our open Florida soils through the gradual accumulation of organic matter, comparatively slight though it may be in the total build-up that is found possible under Florida conditions and in comparison with

(Continued on page 12)

Make 1938 A Record-Keeping Year

BY WAYNE REITZ

Professor of Agricultural Economics
University Of Florida

Now that a new year has started there are no doubt many of you who in taking stock of the year that has just passed wish you had kept a farm record by which you might measure the success of your 1937 farm operations.

Unfortunately old father time cannot do much for those who did not keep their farm records, but in the year which lies ahead now is the time to resolve that 1938 will be a record-keeping year.

For a few years, at about this time, I have written on the subject of record-keeping. Most of these have been much the same, but even at the risk of repeating an old story, it is well to again bring up the subject. We know as you know, that there are many farmers who should, but do not keep farm records. We also know many farmers who do keep records and the advantages they derive in keeping them.

Let us consider for a moment these advantages which record-keeping farmers say they obtain from their accounts:

1. Farm records provide an accurate classification of all receipts and expenditures which provide a basis for studying wherein receipts may be increased or expenses decreased.

2. The net earnings for the year can be determined thereby taking the guess work out of the question as to how much the farmer earned for his own labor or capital investment during the year.

3. A farm inventory as well as a record of receipts and expenses provide a basis for making credit statements and supplying other pertinent information to credit agencies at the time a farmer needs to borrow for his farming operations. Lending agencies are more and more insisting upon credit statements and receipt and expense records before advancing money to borrowers, and many farmers who otherwise could not obtain credit from regular sources are able to do so by presenting a complete summary from well kept farm records. Not only does this information taken from a farm record provide the basis for extend-

ing credit, but the lender immediately places more confidence in the business ability of a farmer who keeps adequate accounts.

4. A farm account provides an historical record of farm transactions and operations. I know of farmers who value their accounts because each year they can check back as to dates when certain operations were performed and by making comparisons with results obtained decide upon the most advantageous time for the current year's operations.

There are other advantages which could be listed, but of these four just mentioned, it would seem that any one or two would justify the keeping of a farm record.

Contrary to a rather widespread belief, these record keeping farmers in deriving the above advantages do not keep complicated accounts. Most of them keep single entry records which require but little time in making entries. There are three essentials to these simple accounts, an annual inventory, receipts, and expenses.

Taking the farm inventory is the first step in starting a farm account. The inventory should be taken at the time of the year just prior to starting the next season's operations. In many parts of Florida, particularly in north and western parts, now is the ideal time for taking inventory and starting a 1938 record. In some of the citrus and vegetable areas, the period from July to October may be a better time. In the inventory should be included an itemized list of all real estate, machinery and equipment, livestock and feed and supplies with values assigned to each.

For the next twelve months after taking the inventory, all that is necessary is to record receipts and expenses pertaining to the farm business. Receipts and expenses may be classified in whatever manner you believe will be to the greatest advantage in studying your farm business. Then at the end of the period another inventory is taken in order to charge off depreciation on buildings and equipment and any increase or decrease in the livestock and feed

and supplies account. This ending inventory is also the beginning for the next year's account.

In addition to the inventory and receipts and expenses, it is also advisable to keep a record of crop acreages and production, livestock breeding records, and other types of information which will give a better picture of the business even though it is not necessary in calculating the farm incomes.

A good farm record can be made up in a note book or journal which will cost but a few cents. However, there are record books especially prepared for farm use. These books can be obtained from the Agricultural Extension Service at the University of Florida or from your county agent upon request.

Those of you who have good records for 1937 and have studied them sufficiently to appreciate their value have already started your records for the present year. But for those who have yet to keep and learn the value of farm records, why not get started now and make 1938 a record-keeping year?

WHAT IS SOIL CONSERVATION?

(Continued from page 11)

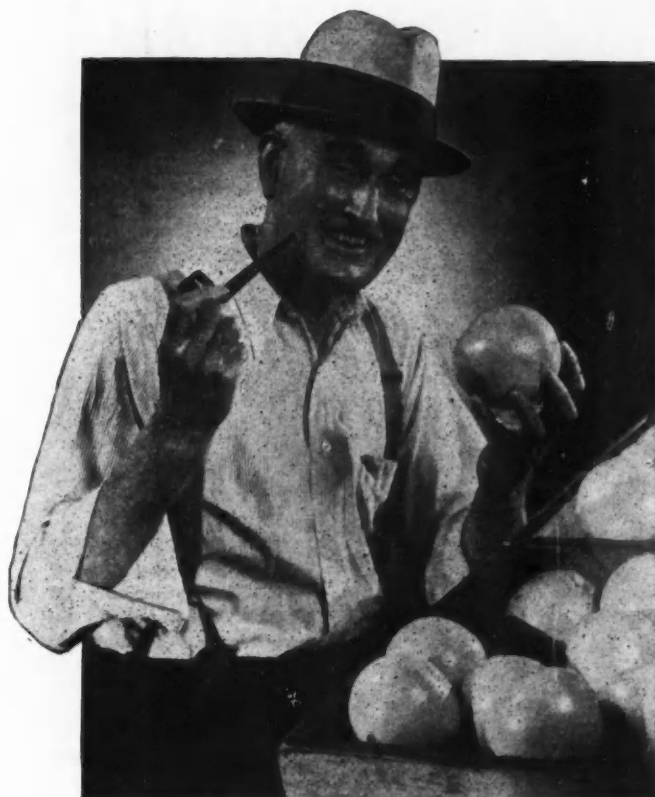
heavier soils.

When, by way of summary, we find that our land management and soil conservation programs must be built largely on such practices as contour cultivation, strip cropping, terracing, cover cropping, improved rotations, grassed waterways, subsoiling, contour furrowing, pasture ridging, etc., we meet with little that is essentially new. In other words, they must consist largely of establishing sound farm routines made up of well-founded procedures, the whole being directed towards two very necessary ends, the conservation and maintenance of the soil on the one hand and the production of bountiful crops, whether of forest trees, corn, livestock or sugar cane on the other.

This being the case, it is evident that any program designed to assist the cause shall fall largely into the

(Continued on page 14)

"AND MY NEXT CROP'S GOING TO BE EVEN BETTER!"



..... Says the
Veteran Armour User

"... Because I've already started the Spring fertilizer application in my citrus grove with Armour's Big Crop Fertilizer.

"Right here you see what two applications of Armour's did for my grapefruit. And with Armour's in the soil this spring, to encourage

vegetation and make the bloom stick — well, I'm looking for many extra boxes of quality fruit like this — large and fine and smooth — with that good color and delicious taste that command real money!"

There's still plenty of time to give YOUR groves the benefit of the Spring application with Armour's Big Crop Fertilizer. It's made right here in the state — to suit Florida soils and citrus — with a balanced ration of the plant foods required for quality fruit.

A card to this office will bring an experienced Armour field man to help with your special grove problems. No obligation, of course.

ARMOUR FERTILIZER WORKS
Jacksonville, Florida



WHAT IS SOIL CONSERVATION?

(Continued from page 12)

category of campaigns of education which will especially involve carefully planned demonstrations. It shall find itself, therefore, at one time or another, in the hands of the Agricultural Extension group. For what more important responsibility can any County Agricultural Agent or Farm Adviser have than the development of sound land use programs for the farmers he is serving? Looking at it from this standpoint the individual farm becomes the absolute unit of operation or development. Consequently any state or national program in soil conservation should be no more difficult than the proper operation of an average farm. It should be our greatest care and solicitude to see that it is not made so.

One thing is certain and that is, without such farm programs we have widespread evidence of what happens to the land throughout the country — sheer devastation of millions of acres with many other millions in process of destruction. In this connection we frequently display a certain peculiar type of mathematical reckoning when we say that so many millions of acres destroyed land at so much per acre equals a net loss of so much in terms of dollars and cents. Nothing could be more in error. Land values are established as a basis of exchange or barter only. A unit of land can know no absolute value against positive destruction. The land is the essential life of a Nation or a State. Destroy the land and the nation perishes. In the days to come let us study carefully and critically some of the really serious problems with which we are confronted in our own state in the field of soil conservation.

KARL LEHMANN BECOMES HONORARY 4-H MEMBER

The first honorary 4-H club member in Florida was unanimously chosen recently by the Lake County Boys' 4-H Club Council. At its invitation, Secretary Karl Lehmann of the Lake County Chamber of Commerce became an honorary 4-H club member, was enrolled in a project, and is going to keep records just like any other 4-H member. Secretary Lehmann has been interested in 4-H club work for many years.



Old Uncle Natchel—he's well known throughout the South for his deep love of all natural things and his strong belief in Natural Chilean Nitrate of Soda — "Natchel Sody," as he calls it.

"All my life," says Uncle Natchel, "I've seen folks growin' crops wid natchel sody."

And even longer than that — as he well knows — farmers have relied on Natural Chilean Nitrate of Soda for almost all their crops.

If you are using Natural Chilean Nitrate, you know how good it is. If you've not used it let this be the year you begin. Remember, Natural Chilean Nitrate carries plenty of quickly available nitrogen and more than 30 other vital elements in *natural* balance and blend.

"Natchel balance and blend—dat's de secret—yas suhl" says Uncle Natchel.

BOTH GUARANTEED 16% NITROGEN

**NATURAL
CHILEAN
NITRATE OF SODA**



Wants Earlier Auction Hours

A movement which it is claimed will add at least 25 cents per box to all Florida citrus sold at auction by placing Florida fruit on sale at an earlier hour has been started by the United Growers and Shippers Association.

"Florida citrus growers and shippers are losing at least 25 cents per box on all citrus sold at auction and completed before the first box of Florida fruit is offered for sale," Murl E. Pace, general manager of the United Growers and Shippers Association, said. This is especially true in the New York auctions.

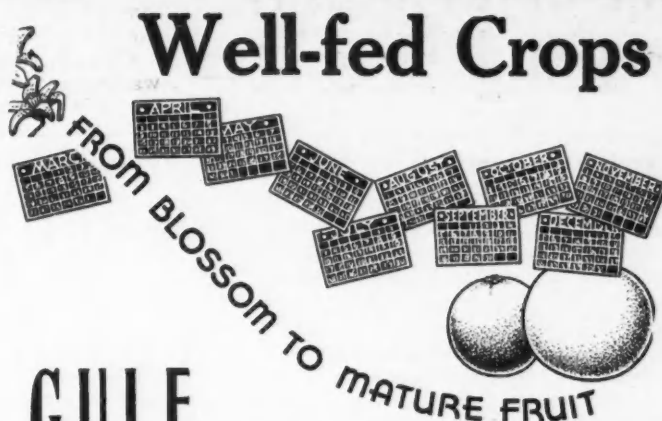
He points out that by the time the Florida sales start many buyers have exhausted their credit, more than filled their requirements, and as a result Florida prices suffer.

Many futile attempts, most of them ill-directed and half-hearted, have been made to correct this situation in the past, Pace says, and it will be difficult to win the auction people and the buyers over, but it is vitally necessary that Florida throw her whole-hearted support behind the movement. It will mean many thousands of dollars to the industry each year.

At present, he says, the sale of deciduous fruits (apples, peaches, pears, etc.) starts in the New York auction at 8:30. Sale of independently offered California citrus fruit also starts at 8:30 and some other fruits are always sold from 10:00 to 10:30. Florida citrus is always sold last, the sales starting anywhere from 11:00 to 11:30 despite the fact that Florida citrus receipts on the New York market when the season is in full swing are the heaviest of any commodity. He hopes by a determined drive to have Florida fruit placed on sale the first thing in the morning from October to May.

While one of the New York auction companies has expressed its willingness to cooperate in the carrying out of this plan and the New York receivers will back the movement, Pace says, the other auction company and the buyers probably will oppose the plan. Buyer opposition is based on the fact that many of them have to attend from four

(Continued on page 22)



GULF

"FRIENDLY FERTILIZERS" and a carefully planned fertilization program will keep your grove well-fed and thrifty.

Another "bloom" is in the offing. And from blossom to mature fruit is a long step. Naturally, it's the fruit you pick that brings a return. GULF Brands of Fertilizer are helping other growers earn more profit per acre. Ask your local GULF Field Man to explain why . . . then try GULF Brands this year and see the difference in your crops.

For Everything That Grows
in Florida . . .



GULF

Brands of
FERTILIZER



Gulf Distributors and Gulf Field Men are located at convenient points throughout Florida. If you do not know where to locate Gulf Service nearest you, please write our home office.

The GULF FERTILIZER COMPANY
Tampa, Florida

IMPRESSIONS

.. By ..
Frank Kay Anderson

J'ever remark the startling resemblance in the speaking voices of Paul Sullivan, the night time radio news-commentator, and Waverly's Jim Morton?

Speaking of radio, the written and verbal comments we had concerning Jeff Thomas' dropping out from WRUF show that his is perhaps the most widely appreciated feature which WRUF ever has been able to offer to the Florida agricultural public; and a lot of non-agriculturalists much interested too.

Let's hope that a better state of health, and maybe some new store teeth, will remove Jeff Thomas' disabilities so that again he may be relied upon as a regular feature over the state station. We agree with numerous others that his news commentaries rank with any of the foremost coming over the national networks; and generally quite a bit more agreeable to a cracker viewpoint.

Like a lot of other folks, we had paid small attention to WRUF, aside from cussing the general difficulty in obtaining a good reception of its programs. Hence we were rather surprised recently in talking to a good sized broadcasting man, to get the view that the folks who from time to time have been charged with running WRUF, in his opinion, may not be charged with any delinquencies such as might contribute to making that station one difficult to get clearly in many parts of the state. The big fellow was cagy, in fact was careful not to say anything outright; but we got the impression that some folks in radio circles believe there is a possibility that the kind, character and age of the equipment purchased for WRUF with the state's money should be carefully considered before any blame is laid upon those whose job it has been to operate it.

The jockeyings one way and another over a Florida citrus marketing agreement served to bring out,

we think, the futility of outsiders sitting in the capacity of referees in anything that is essentially a local matter. One citrus speaker arises and objects to this, suggesting the substitution of that. Then someone points out the disadvantages of that as compared with this. It is all so diplomatic and roundabout, and each speaker generally so careful not to voice his real objections, or to come anywhere close to speaking out what he really has in mind, that the literal minded gentlemen from Washington are pretty well obfuscated. They waste a lot of time and thought trying to reconcile the named objections, and fail, because in reality it's the unnamed objections which carry the weight. Some day a smart Alphabetical from Washington will bring along a first class mind reader to serve as an interpreter, and then won't there be a circus? Only hope we do not miss such an occasion.

Harry C. Plano of Kissimmee, the Chicago boy who made good in the country, gets out every now and then for a heluva time of an afternoon, seeing the sights of Orlando's Orange avenue; but watching out very closely in the heavy traffic.

Which somehow reminds that recently we had a letter from a member of the Orlando police department. The writer said that he was a regular and interested reader of these Impressions. That, again, brings up the subject of the extensive and all embracing scope of our public; but that happens to be somewhat beside the point. The gentleman said he had noted carefully what we had said relative to Orlando being, to our way of thinking, the most difficult of the larger places in Florida in which to drive an automobile with expedition and safety. Very nicely, right diplomatically in fact he wanted to know just how we got that way.

When next we see him we propose to tell him in extenso if the situation permits, just how and why, perhaps adding some constructive sug-

gestions as to how the fair city of Orlando may, if it wishes, in part cease to be a menace to navigation astride the state's main highways and a perpetual source of irritation to some folks, including this writer. So we won't go into that here and now; but we couldn't help bragging a little about including a policeman among our fan public. (The advertising department of this publication might take notice.)

Harold Crews of the Exchange, out and about perpetrating philanthropy in our section of the moral vineyard. One guy we always are glad to see. That cowpea and yams diet of his native Wauchula have given him a poise calculated to make Park avenue envious.

And traveling with him a most interesting individual, Robert F. Miller of Los Angeles, of the field department of the California Fruit Growers Exchange. Bob Miller was finishing up a tour of the markets of about seven months duration and preparing to head for home. It turned out he is a very close friend of one of our highly esteemed friends in the California Exchange Supply Co., and that we had a number of other mutual acquaintances. So quite a visit; and final agreement that the big menace to the citrus industries of both Florida and the Pacific slope is the absentee owner, who generally contrives to know

C. D. Kime

Consulting
Horticulturist

Grove Advisory Service,
Soil Investigations
Research

P. O. Box 222
Phone 3489
ORLANDO

just about enough concerning citrus producing and selling to prove quite thoroughly that a little knowledge is a dangerous thing.

A nice little note from Riley M. Fletcher Berry of Sanford, thanking us sweetly for our mention of her poetic prowess in last issue. Now that is the spirit. If you feel thankful, just come right out and say so. We are still waiting to hear something indicating appreciation from Hugh Akerman of Orlando, for that mighty nice write-up we gave him in these columns a short time back, but we haven't heard a word. We don't think Hugh Akerman is stiff-necked. Probably just bashful.

Personal nomination for the two quickest thinkers of our acquaintance, C. C. Commander, general manager of the Exchange, and Chester C. Fosgate, the independent packer who heads United Growers and Shippers.

No, we didn't forget Howard Phillips of Dr. P. Phillips Co., but Howard is a different sort of thinker. He is sort of forehanded. Generally has a subject all thought out, classified and analyzed, before it occurs to anyone else to start on it.

We find Muri E. Pace in charge of the active operations of the United Growers and Shippers organization, right refreshing. He not only admits, but rather brags, that he doesn't know a darn thing about citrus; but does know enough to do what his board directs him to do.

Referring back to Hugh Akerman's failure to express appreciation, it occurs to us that we haven't heard anything either from Ward Klingensmith of Titusville. However, he is a pretty busy man at this season of the year. Still, we'd just as soon that A. P. Connelly of Sanford doesn't right now call a meeting of the commissioners of the Upper St. Johns River Navigation District of which board both Ward Klingensmith and this writer are members. The first we hear from the mogul of Titusville we'd rather get by mail.

But the highlight of appreciation within our experience is afforded by Jim Morton of Waverly, who is mentioned in the first paragraph of this effusion. A couple of days after it was written, and long before there was any chance for it to

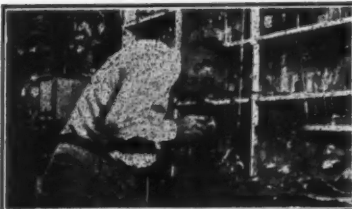
If GRAPEFRUIT sold for from \$5.00 to \$10.00 per box it would be easy — but it isn't.

For a 12 year old grove in average condition producing from 300 to 500 boxes per acre, all production costs (not interest on investment) need not exceed \$30.00 to \$50.00 per acre per year, or 10c to 15c per box.

...others have

We can show you how others have done this for years.

Look over these groves yourselves, and ask the owners.



Seeing Is Believing

Citrus Production has reached the state of survival of the fittest.

If you cannot produce good grapefruit at the same approximate cost, you can make money by consulting with us.

We offer a consulting service. You buy your fertilizer where you wish, we are not concerned with selling fertilizer, but on the basis of our 4 times a year soil tests we can helpfully advise you as to the most beneficial fertilizer to purchase.

Start our SOIL SERVICE NOW!

Our fees are most reasonable—and are included in the cost mentioned in the second paragraph of this statement.

KEENAN
Soil Laboratory

Frostproof, Florida
Wealaco, Texas

get into print, we received a letter from Jim inviting us to drop down and eat turkey on the half shell with the Waverly growers on the occasion of the annual dinner of the organization at the packing house on the evening of January 25, which is still quite a bit ahead as these lines are written. It's the promptest response ever we have gotten. Savors of mind reading.

Like the old lady who couldn't eat the brandied cherries, but appreciated the spirit in which they were sent, we do feel right thankful for that invitation, whether we get down to Waverly or not. It's a long drive down there from out here in the woods beyond Altamonte Springs; but that Clark-Pedersen-Morton bunch ought to know better than to dangle a square meal in front of us.

Never threaten a Florida cracker with food, unless you're willing to be taken up.

Which reflection reminds that one Ross Kay Anderson of this address, who is just now bumming around the British West Indies on a yatchet with some filthy rich, about the time this appears in print is due to be in Haiti and all booked up for some official reception et cetera. We just can't help wondering how that cracker boy will be feeling inside while exchanging the courtesies with a flock of high yallars. Probably another place where a good, efficient mind-reader could be the worst sort of excess baggage.

Went over to Rube Garden's the other night for supper, and he was pretty low in his mind concerning the returns on some fruit that had come in the afternoon mail. Then the radio distributed its evening's message of cheer, oranges averaging one dollar and eighty-one cents or thereabouts, and Rube didn't perk up a bit. Supper kind of lightened his mood; but when we went out afterward to get into his car to go to the movies there it stood with one tire plumb flat. Rube walked all around it in the moonlight without saying anything, then he walked over and kicked the flat tire right hard, and said: "Darn Emily Post."

Just seventeen years ago this month that the first carload of citrus fruit was shipped out of the Rio Grande Valley.

(Continued on page 20)

A Summary Of The Agricultural Situation For 1937

BY C. V. NOBLE
Economist

Florida Agricultural Experiment
Station

The weather has again proven itself to be the principal factor in our agricultural situation. Due to excellent weather conditions, a record yield of cotton and better than average yields of corn, oats, hay, potatoes, tobacco and other crops were obtained in 1937. The total production of the principal crops in 1937 is but 2 percent below the all-time record production in 1920. On the other hand, the acreage devoted to these crops were far below the records of former years. For example, the corn acreage in 1937 was 94,146,000, compared with the record of 110,893,000 acres in 1917; the wheat acreage in 1937 was 68,198,000, compared with the all-time high of 73,700,000 acres in 1919; the 1937 cotton acreage was 33,930,000, compared with the 1926 record acreage of 44,608,000. Other leading crops show similar comparisons as to acreages. This above-normal supply of crops has created a real problem in marketing same at a profit. The feed grains and the by-product feeds will offer the greatest problem, since the number of grain consuming animals is probably little different from a year ago, when it was 12 per cent below the 1929-1933 average. Supplies of feed per animal from a national standpoint are estimated to be the largest in more than 10 years. With this brief summary of the supply of agricultural products, it will now be of interest to discuss the changes that have taken place during the year that would influence the demand for same.

The demand for agricultural products is so dependent upon general business conditions that a background of industrial activity, employment and payrolls is essential before the demand situation for agricultural products can be visualized. The New York Times weekly business index indicated that industrial activity was running well above normal in 1937 until the week ending August 14. At that date business was about 10 percent ABOVE normal. A business recession began at that time, however, and the trend was decidedly downward until the week ending

November 27, when the index showed that industrial activity was 15 per cent BELOW normal. Since November 27 there has been a very slight improvement in business conditions. Industrial employment has suffered as a result of the business recession. Lay-offs became more general as the recession continued, and many employees were forced to shorten the work week for those remaining on payrolls. The national employment index dropped from 103.4 last July to 95 in November, according to the New York Times Annalist. Payrolls, of course, recorded a still sharper drop during the same period, due to the part-time employment of an increasing number of persons. The payroll index dropped from 105.5 in July to 90.8 in November.

Thus, with a heavy supply of farm products and with decreasing payrolls of industrial workers, lower prices for farm commodities were inevitable. The price index for all farm commodities declined almost continuously from early July to the week ending December 7. Since that date there has been some improvement. There was a wide variation in the rate of price decline for the various farm products. In fact, some products did not decline while others showed price increases. Time does not permit other than the general picture at this time.

Another fact that is frequently overlooked in dealing with the well being of any class of workers is the ratio of salaries or prices received to the cost of living. In January, 1937, the ratio of prices farmers received to prices they paid for living and production purposes was 101. That is, the buying power of the farmers' dollar was \$1.01. During the year, however, prices that farmers received declined at a much more rapid rate than prices that they paid. Consequently, the purchasing power of the farmers' dollar continued to decline through the year, and in November it was but 84 cents.

Although the prices of farm products have been declining in 1937, the average prices for the first ten months of the year were higher

than for the corresponding period of 1936. This resulted in the cash income from sales of farm products for the first 10 months of 1937 totaling \$6,732,000,000, or 10 per cent higher than for the corresponding period of 1936. In addition to the above, American farmers received \$355,000,000 in Government payment through October, 1937, or 53 per cent more than was received during the corresponding 1936 period. The Federal Bureau of Agricultural Economics reports that the total volume of agricultural marketings was slightly less through October, 1937, than for the similar period of 1936, notwithstanding the higher crop production of the present year.

The 1937 situation for Florida crops is well portrayed in the December 21 report of H. A. Marks, State Agricultural Statistician. The estimate is made that the farm value of Florida crops in 1937 will total \$100,236,000, compared with \$100,961,000 for 1936. It is made

Tree wounds Can't decay

WHEN PROTECTED WITH

SA-VA-TREE

Guards
against

WEATHER-INSECTS AND FUNGI

One application of Sa-Va-Tree lasts until the wound has entirely healed. It will not crack, peel or flake and heals itself if punctured or broken. Sa-Va-Tree is elastic and allows natural tree growth. Made solely for protection of tree wounds. It has successfully proven its superiority for years. Follow your pruning this time with Sa-Va-Tree and get best results. It costs even less than a good paint. Your dealer has Sa-Va-Tree.

Distributed by

I. W. Phillips & Co.

and

Jackson Grain Co.

Tampa, Fla.

clear in the report, however, that the estimate for the 1937-1938 citrus crop is included in the 1937 total, and that the December citrus prices were used in arriving at the citrus valuation figure. Normally, crops represent from 75 to 85 per cent of the total value of Florida agricultural production.

It is difficult to conclude a situation report without adding a few words concerning the outlook for 1938. The present unfavorable factors are that the volume of 1937 crops yet to be marketed is heavy and the consumer purchasing power has been curtailed due to the recession activity. However, there are many factors which indicate that the recession will be of short duration. Some of the most favorable factors are: there is a need for resident construction; there is a need for railroad replacements and improvements; there is a need for replacements and improvements in the public utilities; business debts are heavy; credit is cheap and plentiful. In conclusion, the following quotation from the December 15, 1937, Business Bulletin of The Cleveland Trust Company expresses the writer's views:

"We have all the economic requisites for prosperity. We have the men, money, materials, and markets We need cooperation between government and business. If that can be attained we can have a resumption of recovery."

Yeast From Citrus Peel

Advances made in the conversion of waste from citrus into valuable by-products gives special interest to an article in Hadar, the able citrus journal of Palestine, pertaining to the use of orange peel in the manufacture of yeast. Only orange peel is discussed for the reason that this is the most available material in Palestine, where the orange production is very large. It is stated that before processing for yeast begins, essential oils, juice and at least part of the pectins may be extracted. The residue yields bakers' yeast, for which there is a ready market.

The investigation of the writers, A. Reifenberg and L. Briak of the Soil Science Laboratory, Hebrew University, Jerusalem, show the fol-

The way to correct "Manganese Starvation" in your grove . . .

THE growing use of manganese sulphate for correction of soil deficiencies resulting in "chlorosis" in citrus trees and plants, is based on successful experiments. Many Florida grove soils lack so-called "secondary" elements which trees and plants need to produce chlorophyll — the green coloring matter in leaves. Here's the corrective:



Your Regular Fertilizer Plus

65%
MANGANESE
SULPHATE

TCC Brand
TENNESSEE CORPORATION

65% Manganese Sulphate, in addition to the most economical form of manganese, analyzes high percentages of SULPHATES OF CALCIUM, IRON, ZINC, COPPER AND MAGNESIUM — all in available form. Your grove needs these "rare elements" for healthy trees and better fruit. Insist that the manufacturers of your regular fertilizers include Tee-Cee Brand 65% Manganese Sulphate in the formula you buy. It is available also in "dust form" grade for dusting and spraying. Distributed by:

U. S. PHOSPHORIC PRODUCTS CORP.
Tampa, Florida

- 89% Zinc Sulphate
- Copper Sulphate
- 53% Tri-Basic Copper Sulphate

lowing composition of sun-dried orange peel with water content of 11 percent.

Composition of orange peel (Percentages in water-free sample)

Crude fat	1.51%
Crude Protein	7.81%
Crude Fiber	9.54%
Crude Ash	2.77%
N-free Substances	78.37%
	100.00%

Below are the observations of the writers.

In making an extract from the sun-dried peel by water, about 57% of all the material goes into the extract and a residue of about 43% remains. Of the N-free substances passing into solution about 37.5% are sugars (determined after Fehling) and about 24% of these sugars are fermentable. At the same time 0.64% of phosphoric acid and 1.12% of nitrogen enter into solution. These substances are likewise necessary for the nutrition of yeast-fungi. The extract also contains pectin, part of which at least can easily be coagulated by the addition of lime-water, while practically all the sugar remains in solution. The recovery of these pectins in a suitable form has still to be investigated.

Our fermentation - experiments showed that sugar-exploitation by the fungi was satisfactory, and also that the yeast recovered was of excellent quality. At the same time, of course, fermentation should be directed in such a way as to yield alcohol. The phosphoric acid present in the extract is sufficient for the nutrition of fungi, but nitrogen has to be added.

Fresh orange peel contains about 80% of water, and therefore about 2 tons of fresh orange peel correspond to 400 kg of sun-dried peel. These 400 kg of sundried-peel contain 100 kg of fermentable sugar. Since 100 kg of fermentable sugar yield 160 kg of yeast, a daily output of 800 kg of yeast requires about 10 tons of fresh or 2 tons of dried peel. . . .

The residue of the water extract (43%) constitutes a valuable fodder, as is demonstrated by the fol-

(Continued on page 22)

CORRECTION

In the advertisement for U. S. Phosphoric Products Corp., in last month's issue, the product listed as "98% Zinc Sulphate" should have read: "89% Zinc Sulphate."

IMPRESSIONS

(Continued from page 17)

We understand the experiments to determine the effect of the Florida Citrus Exchange's new citrus breakfast food in the diet have been conducted on John Moscrip; and judging by the said John's appearance we guess the public soon will be clamoring for that sort of victuals.

Concerning last summer's effort, which failed, to elect Bruce McDaniel of the American Fruit and Vegetable Shippers Assn. a director of the U. S. Chamber of Commerce, a contemporary in another state prints: "If elected it would have been the first time the perishable industry has had direct representation on the national board." Not quite correct, according to our memory. The late Dr. J. H. Ross of Florence Villa at one time during his long presidency of the Florida Citrus Exchange served as a director on the board of the national chamber, such election having been engineered by the late W. F. (Billy) Miller of Tampa, who in his time was quite some chamber of commerce. Some years later J. S. Crutchfield, president of American Fruit Growers Inc., after service on the chamber's advisory board as chairman of the agricultural committee, was elected and served a term as a director of the national body.

And right here it occurs to us that we overlooked a big bet in failing to pay tribute in these columns to E. S. (Ed) Briggs, long manager of the American Fruit and Vegetable Shippers Assn., upon the occasion of his retirement last summer when that organization and the Western Fruit Jobbers were merged into the United Fresh Fruit and Vegetable Assn. A man of remarkable information and capacity, Ed Briggs for years was a most outstanding figure in the world of perishables; and many

THE CITRUS INDUSTRY

times rendered invaluable aid to the Florida perishable industry in rate matters and emergencies. He never fell down when called upon by his friends in Florida, who are a legion.

A lot of nurserymen were swapmen might have thrilling experiences, You wouldn't think citrus nurserymen might have thrilling experiences, but they do. Still, we thought the palm should have gone to Steve Bow of Orlando who said his most thrilling experience was when he was recuperating from an illness and his cross-eyed brother tried to shave him in bed.

Jack Frost, the w. k. figure among the citrus younger set, is now adorning Wabasso, handling sales there under A. B. Michael in the AFG's new specialized Indian River setup.

Think of the hardihood of this Chum Wilder who represents Frank D. Jackson's organization in the central part of the peninsula. After a hard day's work among the growers Chum Wilder comes home and starts his rest period by milking his cow.

Some months ago we heard a pretty well posted man complaining at the alleged breakdown in efficiency in the plants of some of the very big manufacturing concerns. He cited several instances which showed not only deplorable carelessness but a sort of don't-give-a-darn spirit. Still being someone else's experiences, they didn't impinge on our consciousness as they might. Then our gasoline engine quit. One part proved to be too worn to function properly. So we hied ourself to the agency for the manufacturer, explained things, supplied parts numbers, engine numbers and all possible data. They were awfully nice, sympathetic with our predicament, said they'd get quick action from the factory. They did, but the dingus sent was in no way related to our type of engine. So we sent it back and explained. Then a long silence, punctuated by our follow-up-by-mail system. Then another dingus. And this one was wusser. No chance of even fitting it on our engine. So we returned that; and to make things even easier, if possible, we sent the original of the worn part that we wanted duplicated. Slowly and deliberately the mighty manufacturing organization focused its attention on the matter, and in due course sent us another dingus. If possible, this one was

February, 1938

wronger yet. At this writing, after eight weeks, our engine is still out of commission; our exchequer is depleted by parcels posts charges, we are all out of old parts and numbers; and we are just sitting around waiting to see what will happen next.

Meanwhile we notice some slight swellings on our arms between the elbows and shoulders. Maybe we're going to sprout biceps while functioning as a substitute for a gasoline engine.

Jim Shoemaker of New Smyrna couldn't get anything but orators on his radio, and he wanted to get Bing Crosby. So he had it looked over. Nothing wrong with the set, but the antenna had fallen upon and tangled up in his windmill.

Which reminds that if some impatient Texan should drop across the Mexican border and shoot and bury that advertising doctor with the powerful broadcasting outfit and will send us the bill, we believe we can pass the hat and get the money to pay it. But we aren't suggesting anything.

A while back there was an election in Orlando. Sam Way, who had done a pretty good job of mayoring once before there, got himself elected. He didn't promise much, but he got the votes. One of the involuntary factors, we think, was a fellow named Jackson who just then was filling the Orlando prints with a lot of talk as to how he and his CIO

FROST PROTECTION

For 20 years National-Riverside Heaters have saved millions of dollars to citrus, deciduous and truck growers. Low in Cost and High in Efficiency.

Write

National-Riverside Co.
P.O. Box 925 Tampa, Florida

FOR SALE

Lists of Florida Citrus Growers compiled from recent survey of groves, arranged by counties. Names, address, acreage and legal description.

Also List Wealthy Residents of Florida

National Survey Co.
P. O. Box 163
ATLANTA, GA.

J. F. AHERN

Consulting Engineer

Specializing In
Diesel, Electric and
Hydraulic Engineering

Phone 7-4755 2365 Post St.

Jacksonville, Florida

associates were going to revamp and revise the citrus industry. A lot of Orlandoans got to thinking to the effect that if there was to be any excitement old Sam Way might be a pretty good mayor, as he generally kept his feet on the ground. So Sam got the votes, largely unsolicited. A few weeks ago a pickers strike was called in a grove a bit south of Orlando. Sam heard of possibly threatening disorders, so he sent some policemen and the Black Maria down there. Nobody was arrested, but transportation was furnished to the city hall to meet the mayor and talk it over. When they got there Sam did all the talking, and to such effect that the strike was called off right then, and everybody went back to work—happy. And Orlando old-timers said, "I told you so."

Hats off, too, to Roy Williams, Sanford's chief of police, whose prompt and vigorous insistence upon law and order being preserved in the recent CIO strike at the Eckerson grapefruit canning factory there had much to do with obtaining an early and peaceful settlement. When he showed that he meant what he said in setting the picket lines a full three hundred feet back from the factory it seemed to take all the fun out of picketing.

Orange Nut Whip

- 1 cup whipping cream
- 1 cup peanut brittle, rolled fine
- 1 cup orange sections

Whip cream, fold in powdered peanut brittle and orange pieces. Serve very cold. To make a frozen dish, substitute orange juice for sections. Freeze to a mush with $\frac{1}{2}$ cup sugar. Then fold in cream and peanut brittle. Let stand till frozen and serve at once.

PATENTS

Send me sketch, picture, or model of your new invention. I will give you prompt report on its probable patentability based on a search of the patent records for a small charge.

PLANTS, BUSHES, TREES,
VINES, ETC.

can now also be protected by Patents.

International Building

GEORGE E. COOK

Washington, D. C.

Registered Patent Attorney

Florida Citrus Commission Amends Emergency Standard

The Commission at a meeting on January 6 adopted an Amendment to Regulation No. 5, establishing an emergency standard, to be known as Florida No. 3, the requirements for which are the same as for U. S. No. 3, except that a tolerance of 15 per cent may be allowed for very serious damage, under the conditions stated in the enclosed copy of this Amendment.

This does not in any way effect the requirements for U. S. No. 1 and U. S. No. 2 grades adopted for Florida. The present requirements for these grades will be rigidly enforced. The feeling was expressed that this emergency standard will operate to improve the quality of the fruit in No. 1 and No. 2 grades.

Should This Be A Permanent Standard

This emergency standard, Florida No. 3, was established following the insistent claims of a number of shippers that our freeze regulations were working an undue hardship on them in marketing good fruit. The Commission would like to have expressions from all of the shippers in the State as to whether or not this emergency standard should be made permanent.

Brands Registered for U. S. No. 3 Cannot be Used on Florida No. 3 Fruit

We call your attention especially to the fact that the emergency standard herein mentioned is different from the U. S. No. 3 grade and labels, brands or trademarks which are registered with the Commission to represent U. S. No. 3 grade cannot be used on this emergency standard. Therefore, Florida No. 3 fruit must be so stamped on this container.

Below is the amendment adopted:
Amendment to Regulation No. 5 of
the Florida Citrus Commission
Regulation No. 5 of the Florida

E. L. LORD
CONSULTING HORTICULTURIST
Grove Advisory Service
Economical, Safe, Effective
Why not give your grove a break?
P. O. Box 757
WINTER HAVEN, FLORIDA

Citrus Commission, adopted on August 4, 1937, is hereby amended by adding at the end thereof the following:

"And an emergency standard, Florida No. 3, the requirements for which are the same as for U. S. No. 3, except that in cases of dryness or injury as evidenced by broken down juice cells a tolerance of fifteen per cent (15%) may be allowed for very serious damage. Not more than one-third ($\frac{1}{3}$) of this tolerance shall be allowed for citrus fruits which show dryness in twenty per cent (20%) or more of the exposed pulp as shown on the transverse cut through the center."

This amendment is hereby adopted by the Florida Citrus Commission in open meeting in Lakeland, Florida, on January 6, 1938, and shall become effective at 12:01 a. m. Monday, January 10, 1938.

Florida Citrus Commission,
By John Maxcy, Chairman,
Attest: R. E. Bateman, Secretary.

**BEAUTIFY and PROTECT
YOUR HOME WITH
GUARANTEED
ROOFING**

Direct From Factory at
Money Saving Prices.
Freight Paid. Many
styles for all buildings.
Heavy Zinc galvanized
Pressed Steel. Can't
break, crack or curl.
Long lasting. Needs no
and Roofing Book. Send us your name on a
Post Card Today.

Savannah Fence & Roofing Co.
Dept. 5 B-8, Savannah, Ga.

R. O. COLLINS IRON WORKS

TALLAHASSEE, FLORIDA

Chromium Grate Bars
and all types of furnace castings
GEARS, SPROCKETS, PINIONS
all types machinery castings

**BRASS, BRONZE AND
ALUMINUM CASTINGS**

Geo. L. Simonds Co., Winter Haven, Fla.,
will be pleased to serve you.

MARMALADES AND OTHER CITRUS DISHES SHOWN AT ORANGE FESTIVAL

An attractive exhibit of marmalades, preserves and baked goods with citrus predominating in their make-up was on display at the Florida Orange Festival held in Winter Haven during the latter part of January. The products were prepared by home demonstration women of 16 counties, under the direction of home demonstration agents and Miss Isabelle Thursby, economist in food conservation with the State Home Demonstration Department in Tallahassee.

Counties whose home demonstration women sent exhibits included Dade, Palm Beach, Broward, Brevard, Orange, Volusia, Seminole, Osceola, Polk, Hillsborough, Duval, Lake, Pinellas, Manatee, Columbia, Alachua and Leon.

WANTS EARLIER AUCTION HOURS

(Continued from page 15)

to seven auctions in the morning, and this plan would require the rearranging and addition of new employees to their staffs.

The cooperation of the Florida Citrus Commission has been enlisted in the fight. John Clark, member of the commission from Waverly,

THE CITRUS INDUSTRY

has been conducting an investigation into the possibilities and merits of the plan.

YEAST FROM CITRUS PEEL

(Continued from page 19)

lowing analysis:

Composition of Water Extracted Orange-Peel (Percentage of water-free Samples)

Crude fat	0.73%
Crude Protein	7.49%
Crude Fibre	20.03%
Crude Ash	3.63%
N-free Substances	68.12%
	100.00%

We believe that our process shows a way to the recovery of a new by-product from orange culls. The economic utilization of the new by-product is closely linked with that of the other by-products.

Very desirable buds on sour orange root. Valencias, Hamlins and Jaffas. Also sour orange seedlings. Prices on request. Nursery at Blanton, Fla. Copothorn Groves, Inc., P. O. Box 310, Tampa

Better Growers Use Our Planned Production Program. Designed for your grove. Soil analysis and interpretations. Sound, Safe, Profitable. J. G. LAWTON, Research Chemist, Bartow, Fla., Phone 8804.

"MAIL ORDER Operator desires contact with grower of high grade avocado pears. Have interesting proposition for grower of highest quality fruit." F. R. Gardner, P. O. Box 528, Greenville, Pa.

ROSE BUSHES — Guaranteed 2-Yr. old fieldgrown everblooming varieties. Fall planting best. Free catalog. Tytex Rose Nurseries, Tyler, Texas.

CARETAKER WANTED capable of looking after small grove in exchange for free house and electric light. Owner will finance small herd of cows so caretaker can earn living on twenty-three acres. Caretaker's duties simple requiring equivalent to one day's labor a week. Address Lester Perrine, Rumford Avenue, Waltham, Mass.

CITRUS TREES — Offer about 100 Valencia orange trees, 2 to 2 1/2 in. caliper, 75c; 150 Duncan grapefruit, 2 to 3 1/2 in. caliper, 65c. On sour stock delivered your truck here. J. K. Christian, McIntosh, Fla. Marion County.

SEEDS—ROUGH LEMON, SOUR ORANGE, CLEOPATRA. Pure, fresh, good germination. Also seedlings lineout size. De Soto Nurseries, DeSoto City, Fla.

SCENIC HIGHWAY NURSERIES has a large stock of early and late grapefruit and oranges. One, two and three year buds. This nursery has been operated since 1888 by G. H. Gibbons, Waverly, Fla.

THRIFTY TREES and budwood from record performance Perrine Lemon parents. Persian Lime and other citrus varieties. DeSoto Nurseries, DeSoto City, Fla.

STANDARD varieties of citrus trees including Persian limes and Perrine lemons at reasonable prices. Ward's Nursery, Avon Park, Fla.

THOUSANDS of Rough Lemon Seedlings, six to twenty inches high. \$1.50 per hundred; \$12.50 per thousand; ten thousand or more at \$10.00 per thousand. Strong field grown plants. **INDIAN ROCK NURSERIES**, Largo, Florida.

Hamline, Valencias and Lue Gim Gongs for fall planting. All on Cleopatra root. Zellwood Nurseries, Zellwood, Fla.

CAUSERIENCE LEPIDOFLOIA—(So-called Brazilian oak), resembles Australian pine. Grand for wind-breaks. Cold resistant. Beautiful. Send for sample of foliage. \$6.00 per 100. S. S. Matthews, Homestead, Fla.

HARDIN'S SPERRYOLA Lemon, a profitable adapted commercial variety for all sections. Hardy, prolific grower and producer. Limited number choice trees. Hardin Nurseries, Box 63, Lakeland, Fla.

CITRUS NURSERY TREES, standard and new varieties on Cleopatra and Sour. Priced from 30c up. Grand Island Nurseries, Eustis, Fla.

SEED—Rough lemon, sour orange, cleopatra. New crop from type true parent trees. Also thrifty seedlings. DeSoto Nurseries, DeSoto City, Florida.

NEW COMMERCIAL lemon for Florida, the Perrine; proven. All residents need yard trees, keeping Florida money at home. Booking orders for budded stock for winter delivery. DeSoto Nurseries, DeSoto City, Fla.

CITRUS SEEDLINGS, all root stock varieties. \$10.00 per 1000 up. Grand Island Nurseries, Eustis, Fla.

BUDDED trees new Florida commercial lemon, proven, thin skinned, juicy, scab immune. Also rough lemon, sour orange and Cleopatra seed and liningout seedlings. DeSoto Nurseries, DeSoto City, Fla.

WANTED—To hear from owner having good farm for sale. Cash price, particulars. John Black, Chippewa Falls, Wisconsin.

CROTALARIA SPECTABILIS, fresh crop, scarified, \$15.00 per 100 lbs. F. O. B. Eustis. **GRAND ISLAND NURSERIES**, EUSTIS, FLA.

PERSONAL

QUIT TOBACCO easily, inexpensively, without drugs. Send address. Ezra Stokes, Mohawk, Florida.

ALYCE CLOVER, the best legume for hay or covercrop. Write for information. Hardin Groves, Box 63, Lakeland, Fla.

UP to \$20.00 paid for Indian Head Cents: Half Cents \$125.00; Large Copper Cents \$500.00, etc. Send dime for list. Roman-ocoinshop, D. Springfield, Mass.

FOR SALE—Small packing house machinery and equipment complete. Apply Hector Supply Company, Miami.

IF suffering with Piles, I want to help you. Drop me a line explaining.

Fred C. Whitney
317 6th Ave., Des Moines, Iowa

CLASSIFIED

Advertisements

The rate for advertisements of this nature is only five cents per word for each insertion. You may count the number of words you have, multiply it by five, and you will have the cost of the advertisement for one insertion. Multiply this by the total number of insertions desired and you will have the total cost. This rate is so low that we cannot charge classified accounts, and would, therefore, appreciate a remittance with order. No advertisement accepted for less than 50 cents.

FOR SALE—2000 Riverside No. 10 Grove Orchard Oil Heaters used only two seasons, excellent condition. 70c each, F.O.B. Marianna subject to prior sale. Marianna Fruit Company, Marianna, Fla.

ALYCE CLOVER SEED. Ripe and cleaned. Ideal cover and hay crop. Write for information. J. C. Smith & Son, 301 West Main St., Lakeland, Fla.

Mid-Season Report On Florida Citrus

BY C. V. NOBLE
AGRICULTURAL ECONOMIST,
FLORIDA EXPERIMENT
STATION

Our State Agricultural Statistician, Mr. H. A. Marks of Orlando, Florida, recently made public the February 11, 1938 release of the Federal Crop Reporting Board concerning citrus fruit estimates for the 1937-38 season. This report showed but two changes from the January report. The Florida tangerine estimate was reduced 250,000 boxes, due to the heavy dropping of fruit following the December cold wave. The Texas grapefruit estimate was increased 850,000 boxes due to the fact that the fruit was "sizing up" better than had been anticipated previously.

The present estimated production of oranges, grapefruit and tangerines

states were 4.3 per cent under the quantities shipped up to February 16 a year ago, whereas the present season's crop of these fruits is estimated at 10 per cent higher than last season. This situation indicates the marketing difficulties ahead if the present season's crop is to make a fair return to citrus producers.

The most reliable source for a price comparison of Florida citrus by seasons is the record of sales on the ten citrus auction markets.

Florida orange auction prices differed but little in amount or trend this season through December 24 from the 1936-37 season. Since that date, however, the price has not im-

ending February 11, the average auction price for Florida oranges was \$2.27 per box compared with \$3.25 per box at the same date last year. From a study of auction prices of Florida oranges by weeks ending October 28 to February 11 this season it was found that the average auction price was \$2.24 per box compared with \$2.73 per box for the corresponding period of the 1936-37 season.

A similar study of Florida grapefruit auction prices reveals the fact that the price this season to February 11 has been appreciably above the price for the corresponding period last season. For the week ending February 11, the average auction price for Florida grapefruit was \$2.22 per box compared with \$1.93 for the corresponding week in 1937, and for the seasons through February 11, the comparative prices were \$2.29 and \$1.98 per box for 1937-38 and 1936-37, respectively.

Florida tangerine auction prices have been running slightly higher this season to date than in 1936-37. Through February 11 this season, the average auction price on all markets has been \$2.53 per box compared with \$2.21 for the corresponding

(Continued on page 19)

Table 1 — Comparison of the February 11, 1938 Estimate of Production of Oranges, Grapefruit and Tangerines for the 1937-38 Season with the Record of Production in 1936-37
Total Production — Packed Box Basis

All States	This Season	Last Season	Percent Change from Last Season
Oranges	65,256,000	52,174,000	25.1 increase
Grapefruit	26,940,000	30,680,000	12.2 decrease
Tangerines	2,250,000	3,000,000	25.0 decrease
Total	94,446,000	85,854,000	10.0 increase

in all domestic citrus areas for the 1937-38 season indicates an increase of 10 per cent over the record of production of these fruits in the same areas for the 1936-37 season. The increase of 25.1 per cent in the orange estimate more than offsets the decrease in the grapefruit and the tangerine estimates of 12.2 per cent and 25 per cent, respectively (Table 1).

In the light of this comparison of total production, it is of interest to compare shipments to date this season with shipments that had been made at the same date last season (Table 2). Shipments of oranges from all states through February 16 this season were 8.1 per cent larger than at the same time a year ago, but the estimated increase in the orange crop this season is 25.1 per cent. Grapefruit shipments this season are 17.8 per cent lower than at the same time a year ago. This would also indicate a lag in movement of the grapefruit crop, if the indicated 12.2 per cent decrease in this season's production materializes.

The total shipments of oranges, grapefruit and tangerines from all

proved this season, but has had a downward trend, with some slight slight improvement since the week ending January 21. For the week

Table 2 — Comparison of Citrus Carlot Movement This Season Through February 16 with a Year Ago at the Same Date.

	Carlots This Season	Carlots Last Season	Percent Change from Last Season
FLORIDA			
Oranges	23,498	21,085	11.4 increase
Grapefruit	9,175	14,108	35.0 decrease
Tangerines	3,758	4,931	23.8 decrease
Mixed citrus	5,921	5,874	.8 increase
Total	42,352	45,998	7.9 decrease
TEXAS			
Oranges	1,824.9	2,893	36.9 decrease
Grapefruit	10,111.8	9,486	6.6 increase
Tangerines	1	0	100.0 increase
Mixed citrus	745	1,410	47.2 decrease
Total	12,682.7	13,789	8.0 decrease
CALIFORNIA			
Oranges	13,821	12,246	12.9 increase
Grapefruit	256	210	21.9 increase
Tangerines	3	5	40.0 decrease
Mixed citrus	389	328	18.6 increase
Total	14,469	12,789	13.1 increase
ALL STATES			
Oranges	39,459.9	36,496	8.1 increase
Grapefruit	20,087.8	24,429	17.8 decrease
Tangerines	3,773.0	4,936	23.6 decrease
Mixed citrus	7,136.0	7,750	7.9 decrease
Total	70,456.7	73,611	4.3 decrease

Citrus Production Credit Assn. Reports Good Year

Reports submitted by officers and directors of the Orlando Citrus Production Credit Association at the annual meeting of stockholders held in Orlando on February 17 indicated that this citrus growers cooperative credit organization had another successful year in 1937. The reports showed an increased volume of business done and, notwithstanding the recession in prices, a good collection record.

Complete and detailed reports were given to the stockholders at the meeting, which was well attended by growers. The financial statement of the association was displayed on a big chart and other interesting data showing costs of operation, etc., were likewise displayed on charts.

Reports were made to the meeting by A. E. Pickard, president; Philip Marz, secretary-treasurer, and F. G. Morehead, a member of the board of directors.

John D. Clark of Waverly, V. L. Bullis of Orlando, and J. Earl Anderson of Lakeland were elected to serve on the board of directors. Other members of the board, whose terms did not expire this year are A. E. Pickard, C. H. Walker, J. J. Parrish and F. G. Morehead.

The Production Credit Corporation of Columbia was represented by J. Edwin Tiddy, secretary, who addressed the stockholders at the conclusion of the business session. Mr. Tiddy stressed the fact that the production credit association is a permanent and dependable source of credit for responsible citrus growers organized on a cooperative basis. He said this association has systematized the citrus grower's financing, is controlled and operated by citrus growers, lends money only to citrus growers in all counties of the State and meets all of their short-term credit needs.

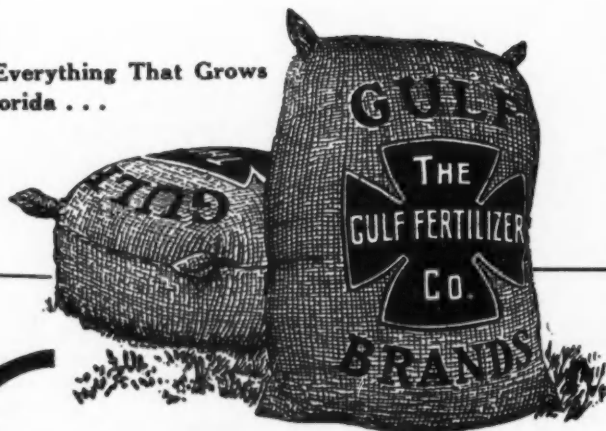
So impressed was the general public with the Hardee county 4-H club display at the county fair recently held that the fair management has requested County Agent H. L. Miller and the club members to expand their exhibits from the 30-foot space they had this year to 50 feet in 1939.

The ONLY Way!

THE right plant foods in the right amounts at the right time sums up the story of fertilizer in helping you produce quality crops. Trees, like humans, require a complete, balanced diet to maintain good health and proper growth. With next year's crop in the making, Spring and Summer applications are vitally important.

GULF Brands of Fertilizer are keyed to soil and crop conditions in your section to give your grove high-grade plant foods . . . at economical cost. The Gulf Field Man in your section will be glad to tell you why GULF Brands have proved so successful for your neighbors and will do as much for you. Ask him to call.

For Everything That Grows in Florida . . .



GULF

Brands of

FERTILIZER



Gulf Distributors and Gulf Field Men are located at convenient points throughout Florida. If you do not know where to locate Gulf Service nearest you, please write our home office.

The GULF FERTILIZER COMPANY

Tampa, Florida